WASHINGTON NAVY YARD

The Washington Navy Yard (WNY) is located in southeast Washington, DC, on the banks of the Anacostia River. Established on October 2, 1799, the Washington Navy Yard is the oldest naval shore facility. In 1803, it became the homeport for the entire U.S. naval fleet. In addition to shipbuilding, the Navy Yard manufactured a variety of items needed to support the fleet, including chain, cable, sounding weights and ordnance. In 1961, industrial activities ceased and the Washington Navy Yard became a supply and administrative center. Two years later, a large portion of the property (including 47 buildings) was transferred to the General Services Administration. As the mission of the Yard shifted from manufacturing to administrative activities, a number of the large, multi-storied shops and storage buildings were converted for use as office buildings. Today, the Washington Navy Yard consists of 85 buildings and employs more than 9,000 military and civilian personnel. Although the Washington Navy Yard has been an administrative facility since the 1960s, the installation's previous history of military industrial activities has left behind old waste sites and other areas where hazardous substances have been released into the environment. Studies conducted from 1993 to 1998 have identified a number of such sites.

In 1997, the Navy and the U.S. Environmental Protection Agency (EPA) negotiated a Consent Order for the Washington Navy Yard under section 7003 of the Resource Conservation and Recovery Act (RCRA). Under the RCRA Consent Order, the Navy began conducting a RCRA Facility Investigation (RFI) and several interim removal actions. Because the Navy Yard was proposed for listing on the National Priorities List, the activities covered by the RCRA Consent Order actually combined the Navy's cleanup obligations under both RCRA and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

In April 1998, the Navy, the Department of Justice, and the Earth Justice Legal Defense Fund negotiated a Consent Decree to settle a civil suit. The suit was filed because of concerns that the Washington Navy Yard and the Southeast Federal Center (formerly part of the Navy Yard) could be contributing to pollution in the Anacostia River through contaminated stormwater discharges, and that contamination at these properties could be a risk to human health and the environment. Under the Earth Justice Consent Decree, the Navy and the Justice Department (for the Southeast Federal Center) agreed to accelerated timetables for specific cleanup actions, including the Storm Sewer Cleaning and Rehabilitation project and several Removal Actions.

The Washington Navy Yard was placed on the National Priorities List (NPL or "Superfund") on July 28, 1998. The NPL is the EPA's list of the highest-priority hazardous waste sites in the nation. It was established by the Comprehensive Environmental Response Compensation and Liability Act (CERCLA). On June 30, 1999, a Federal Facility Agreement (FFA) among the Navy, EPA, and the District of Columbia was signed. The FFA became final on September 30, 1999, after a public comment period. The FFA provides a set of goals and procedures for investigating and cleaning up hazardous substances on the Washington Navy Yard. It closed out the 1997 RCRA Consent Order at the Navy Yard and made EPA's Superfund program the lead regulator. Since the FFA was signed, the environmental cleanup activities at the Washington Navy Yard that began under RCRA procedures are continuing under the CERCLA process.

The Navy, EPA and the District of Columbia worked closely together to smooth the transition from RCRA to CERCLA. District of Columbia and EPA's CERCLA program staff reviewed cleanup-related documents as they were being prepared under RCRA.

The Tier 1 Partnering Team (cleanup program staff from the Navy, EPA and District of Columbia's Environmental Health Administration) meets regularly to discuss and plan environmental cleanup activities at the Washington Navy Yard. The Washington Navy Yard's Tier I Environmental Restoration Partnering Team works closely together, to plan and carry out the investigation and cleanup of contaminated waste sites at the Yard. (The Tier II level is senior officials to whom the Tier I members report.)

Mission Statement

The Washington Navy Yard Tier I Environmental Restoration Partnering Team, will pursue the goals we have outlined below through teamwork and commitment. Our communication will be open, honest, effective, respectful, and timely. Our overall goal is to be proactive, innovative, and flexible in order to solve problems, while sharing risks and recognizing accomplishments.

Goals

- Satisfying public/ customer needs and providing quality service
- Cost effectively moving the WNY through the IR Program
- Complying with regulatory requirements
- Protecting the environment and the health and well-being of tenants, residents, and visitors of the WNY
- Completing all projects on schedule
- Developing solutions that will be protective to human health and the environment, specifically including the Anacostia River
- Complying with safety and health requirements
- Resolving issues at the Tier I level when possible
- Working as an integrated environmental team

Environmental Remediation Program

This following explanation is part of the Navy's active efforts to provide accurate, timely and comprehensive information on the environmental remediation program at the Washington Navy Yard. The Installation Restoration (IR) Program explanation contains an overview of the environmental activities at the Washington Navy Yard:

Site 1 - Former Lead and Brass Foundry

Site 1 is the location of a former foundry that manufactured brass cannons, shells, and shots. Activities in this building at various times have included a 6-inch gun shop, miscellaneous shops, an erecting shop, a general machine shop and a laundry facility. Heavy metals were used in ordnance production, as well as solvents for cleaning, cyanide and phenols for cooling, and chemicals associated with laundry facility processes.

Site 2 - Former Gun Carriage Shop

Site 2 consists of a group of multi-storied brick structures and the adjacent soil. The building was converted over time from a gun carriage shop to a general machine shop, civil defense storage, “serve mart” and storage/supply, and a general warehouse. It is presently an office building. Potential hazardous substances associated with general machine shop operations can include solvents and metals used in paint spraying.

Site 3 - Former Gun and Metal Plating Shop

Site 3 is a sloped grassy area that is the former location of Building 40/41, which was a multi-storied building. Gun pits, the depths of which ranged from approximately 24 feet to 69 feet below the lower floor, were believed

to be filled with rubble or granular material. Through the years, Building 40/41 was transformed from a gun shop to a plating shop and then to offices, before it was demolished in 1977. A large variety of metals, acids, cleaners, and caustics were commonly used during typical plating operations.

Site 4 - Former Cartridge Case Shop

Site 4 consists of three buildings. The first building has been used over time as a copper rolling mill, cartridge case shop, metal pressings shop, Navy Exhibit Center, offices, and warehouses. It currently contains the Navy Exhibit Center, shop, and warehouse. In 1872, the second building was an Anchor and Faggoting Shop; at other times it was used as a cartridge case shop, chemical laboratory, seamen shop, offices, and storage. The third building was used as a cartridge case shop, primer shop, furnace room, metal pressings shop, storage, and Navy Exchange Center.

The first building contained industrial wastewater lines and above-ground grade acid pits. Research into historic operational processes suggests that residues, such as solvents, phenols and metals, may be present at the second building. Above-ground acid pits were located in the northern portion of the third.

Former Site 12 is now considered a part of Site 4. It consisted of the stormwater line running from the area of Site 4 to Outfall 5, which contained elevated levels of heavy metals, PAHs, and PCBs in sediment deposits. The contaminated sediments were removed during the Storm Sewer Cleaning and Rehabilitation project. The potential source of this contamination may have included past releases from Site 4.

Site 5 - Gun Mount, Metal Cleaning, and Fabricating Shop

This building was constructed during 1901-1902 and used as a specialized gun mount shop. The building was also utilized as a secondary mount shop, roughing shop, erecting shop annex, broadside mound shop annex, Shop 28 Annex 2, aluminum cleaning facility, welding and fabricating shop, storage, snack bar, and supply department. Historically, solvents, phenols, and metals were used in cleaning, cooling, and paint spraying activities, which may have contributed to the contamination found in the soil and groundwater at Site 5.

Site 6 - Heating and Former Power Plant, Gun Assembly Shop

Site 6 consists of three buildings. The first building was utilized as a gun assembly shop. It was recently renovated and expanded to house new offices. It is known that solvents were used for cleaning, while metals were used in paint spraying operations. The second building has operated as the WNY power plant and is still used to distribute electricity from PEPCO transmission lines to the Washington Navy Yard and the Southeast Federal Center. The third building has operated as a boiler house. A nearby ash sedimentation pit was converted to a coal storage area in later years.

Fuel, oils, greases, metals, PCBs and solvents have contributed to the contamination found in the soil and groundwater at Site 6. In 1997 and 2001, removal actions were performed at Site 6 to remove PCB-contaminated soil and sediments. Former Site 15 is now considered a part of Site 6. It consisted of the stormwater line running from the area of Site 6 to Outfall 10, which contained levels of PCB, PAHs, and metals in sediment above EPA screening criteria. The contaminated sediments were removed during the Storm Sewer Cleaning and Rehabilitation project. The potential sources of this contaminated sediment may have included Site 6 and offsite contaminated soil from the Southeast Federal Center, which was formerly part of the Navy Yard.

Site 7 - Laundry

This multi-storied brick building formerly operated as the receiving station for laundry, dating back to 1939. Offices and the Naval Command System Support Activity also used this site. Although laundry processes were originally thought to include dry-cleaning, which did use solvents. Historical research found no evidence that dry-cleaning was performed at this building; the laundry activities were washing, starching, and pressing.

Site 8 - Former Paint and Oil Storage

This single-story building was formerly used to store paint, oil, and other flammables and chemicals. Based upon the possibility of past spills, residues from the products stored on these premises may have contributed to the contamination found in the soils at Site 8.

Site 9 - Former Gauge and Chemical Laboratory

Site 9 can be traced back to 1944, when it was known as the Gauge Laboratory Building. The building also operated as offices, a chemical laboratory, and the home of the Naval Weapons Quality Assurance Officer. Mercury, a material associated with typical gauge laboratories, may have been released.

Site 10 - Multiple Buildings

Past maintenance activities at these buildings, which had lead-based paints and lead roofing materials, are believed to be the source of lead-contaminated soil. Restrictions have been placed on gardening and other activities around these buildings, to minimize the chance of human exposure to unhealthy levels of lead in the soil before the full Remedial Investigation is completed.

Site 11 - Former Incinerators

A 1979 Naval Facilities Engineering Command drawing shows that three incinerators were removed along with the top 6 inches of soil. This site is now used as a parking lot. The incinerators burned classified paper documents, mylar drawings, and film. It is suspected that residual contaminants from burning these materials may remain in the soil at Site 11.

Site 13 - Electric Equipment

Site 13 was suspected to house PCB-containing equipment in the past; however, it does not presently house PCB-containing equipment. PCBs have been found in the soil.

Site 14 - Electrical Portable Generator

Site 14 previously housed a PCB-containing portable generator. The leaking generator is believed to have impacted the soils. Presently, there is no PCB-containing equipment housed in this building. In a 1997 removal action, PCB-contaminated soil was removed from Site 14.

Site 16 - Former Gasoline and Diesel Fuel Storage

At one time, thirteen underground storage tanks (USTs) existed at Site 16, both inside and surrounding the site. These USTs have either been removed, or emptied and abandoned in place, in accordance with District of Columbia regulations. Initially, this site was identified based on possible petroleum-related contaminants in the soil and the possibility that contamination was entering storm sewers that run through the site. USTs are addressed, Navy-wide, under a separate program. A UST investigation is now being conducted at this building, which is located within Site 16.

Mercury-contaminated soil was discovered at Site 16 during initial sampling and was removed in 1999 by a time-critical removal action. Site 16 remains part of the Remedial Investigation primarily because of the mercury discovery.

Site 17 - Automotive Maintenance Facility

Site 17 was constructed as a maintenance facility for automotive equipment and official Government cars. This site was investigated because of past and current public works operations. Miscellaneous public works operations are suspected of contributing to contamination in site soil and groundwater.

SSA 1 - Former Oil Gasification and Forge Shore Pneumatic Plant

SSA 1 was an Oil Gasification and Pneumatic Plant associated with the Forge Shop. It was equipped with centrifugal blowers and graduated oil tanks, providing blast air, gas, and fuel oil to operated furnaces and forges in the production shops.

SSA 2 - Former Cartridge Case Foundry

SSA 2 actually operated as a storehouse and an electronics shop. The activities in this building were not determined to warrant further action; therefore, no sampling will be conducted at SSA 2 during the SSA investigation.

SSA 3 - Former Ship Repair Department

The Ship Repair Department consisted of seven existing and previously existing buildings. The department overhauled and repaired small craft including tugboats, barges, yachts, tenders, pile drivers, lighters, floats, derricks, and patrol vessels.

SSA 4 - Dispensary

The Dispensary has always provided, and continues to provide, medical services to personnel at the WNY. Equipment included x-ray facilities and dental facilities. Silver and scrap film wastes were generated at the dispensary, according to a Preliminary Assessment conducted in 1988.

SSA 5 - Former Liquid Storage for Optical Shop

SSA 5 was combined with the former Optical Shop and Laboratory, to form SSA 9.

SSA 6 - Garbage and Trash House

SSA 6 was built in 1943 of concrete and brick foundation and "BW" superstructure, with 600 square feet of floor space. The last data available on the use of the building were from 1965.

SSA 7 - Former Leaking PCB Transformer Locations

SSA 7 consists of a number of buildings, which formerly contained PCB-containing transformers, where PCB spills or leaks had been reported and cleaned up in the past, under the DoD-wide removal of PCB-containing equipment in the 1980s-1990s.

In 2001, wipe samples were collected for PCB analysis within the transformer rooms of these buildings. The objective was to confirm whether the prior cleanup was adequate and if any PCBs still remain in those buildings. All of these areas are locked utility rooms that are only entered by Public Works staff.

SSA 8 - Former Polishing and Plating Shop

Operations such as light machining, benchwork, and light motor overhaul and assembly, were likely conducted in this building. The building was converted to an electroplating plant in the 1920s to support the naval guns being manufactured at the Washington Navy Yard. Operations included plating with chromium, cadmium, nickel, copper, lead, tin, gold, and silver.

SSA 9 - Former Optical Shop and Laboratory

SSA 9 consists of three buildings. The optical shop and laboratory operated from about 1941 to 1955. Activities in adjacent buildings supported the operating needs of the Optical Shop. Chemicals were stored in one of the buildings and were used daily in the other buildings. Pitch for the optical shop was stored in another building

SSA 10 - Former Breech Mechanism Shop

SSA 10 was constructed in 1899 as a Breech Mechanism Shop. The building generally served as a large machine shop that manufactured and assembled breech mechanisms for guns. Manufacturing operations ceased in 1961 and the building began to serve as the Navy Museum, after extensive renovations.

SSA 11 - Former Storehouse

SSA 11 was used as a general storehouse for the Supply Department from its construction in 1919 until 1965. Degreasing activities that would have used solvents occurred on the second floor, but large quantities of chemicals were not stored in this building.

AOC 1 - Former Public Works Maintenance Shop

This building, completed in 1915, was a steel-framed building with a wood- and steel-framed addition and brick and vinyl siding. The building originally served as a radio station and, in 1919, its name was changed to the Radio Test Laboratory. Its function included manufacturing radio equipment such as receivers, condensers, and amplifiers.

In the late 1930s, the Fire Control Lab and the Radio Test Laboratory were combined to form one building. The Fire Control Lab tested naval equipment for endurance, including temperature rise and corrosion. In 1965, it was converted to the Public Works Maintenance Shop. The building was demolished in 1999. A new building now stands on the site.

Three soil samples were collected in September 1998 in the area of AOC 1. Polyaromatic hydrocarbons (PAHs) and arsenic were detected in the samples, at levels similar to those that had been detected throughout the Washington Navy Yard by the September 1996 Site Investigation. It is likely that these consti tuents originated from the fill material and are not associated with the past practices performed at AOC 1. Further review of historical information determined that no further action is required at AOC 1.

Remedial Investigation

An overview of the ongoing Remedial Investigation at the Washington Navy Yard is as follows: A Remedial Investigation (RI) is the next step in the CERCLA or IR Process, when completed; the RI will provide data needed to support a Feasibility Study (FS), which will identify and evaluate alternatives for possible corrective actions.

In accordance with the Federal Facility Agreement, the Remedial Investigation at Washington Navy Yard is being conducted in phases. The order in which sites are investigated in the IR program is based on their potential long-term risk to human health and the environment. The principal areas of investigation are:

1. **Focused investigations at Site 4, Site 6, and Site 14**. The RI will evaluate the nature and extent of soil and groundwater contamination at these sites, estimate the human-health and ecological risks associated with them, and attempt to determine if these sites are the source of the contamination that was removed from the Navy Yard's storm sewers.

Sampling began in 1999 and was completed in March 2000. An Initial Findings Report was prepared and includes a summary of field activities completed, soil and groundwater analytical results, and a preliminary analysis of the data and observations.

It is difficult to anticipate all the information needed during one field investigation. The Tier 1 team anticipated that supplementary data collection would be needed, to clear up questions that emerged from the initial analytical results. Therefore, a "Data Gaps Investigation" was conducted in the summer of 2001.

The Remedial Investigation report for Sites 4, 6 and 14 is available to the public for review. This report will combine the 1999 and 2001 analytical data for these sites, along with human health and ecological risk assessments, recommendations, and conclusions.

2. **Focused investigation at Site 16**, where mercury-contaminated soil was removed in 1999. Sampling for the RI was performed in January-February of 1999. The RI report determine if the short-term removal action was sufficient to protect human health and the environment over the long term, or if additional remediation is needed..

3. **Focused investigations of the remaining sites of concern** at the Washington Navy Yard. This study is still in the planning stages. So far, sites identified for this phase include:

- Site 1
- Site 2
- Site 3
- Site 7
- Site 8
- Site 9
- Site 10
- Site 11
- Site 13
- Site 17

4. Basewide remedial investigation of groundwater (the water that flows through layers of sand, gravel, or rock beneath the ground). Groundwater at the Washington Navy Yard is being studied as a single "Operable Unit" (OU 1). The Navy is investigating the possibility that contaminants from past industrial operations have traveled through the soil into the groundwater and may be slowly discharging into the river.

During the 1999-2001 sampling, sediment samples from the near shore Anacostia River (between the existing Navy Yard bulkhead and the end of the existing piers) were assessed and groundwater samples were taken from about 75 monitoring wells and from other sampling points throughout the Navy Yard. Additional groundwater samples will be collected during the later Remedial Investigations. The combined data will be used to evaluate any impacts on the near shore Anacostia River from contaminated groundwater or stormwater that may have been discharging from the Washington Navy Yard and to determine any potential risks to human health and the environment. The RI report for basewide groundwater will be issued after all the primary data collection studies are complete. The Initial Findings Report and the RI for Sites 4, 6 and 14 will provide a first look at the groundwater data collected in 1999-2001.